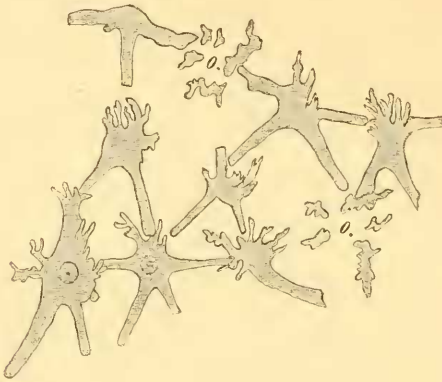


centrum gives off rays on one side only and on the other side receives rays only. It then, when isolated, much resembles the stellates of *Holasterella*, Carter.



The accompanying rough sketch, made by camera lucida, illustrates this mode of union. In some parts of the section, marked *o*, the razor has cut away the centrum of a corpusele, leaving, however, the spines, which thus remain to indicate its position. As the specimen from which the section was taken had been boiled in caustic potash, the rays of the corpuseles shown in the figure are not so long as in untreated specimens; in my extended paper careful drawings will show the rays complete up to their natural terminations.

XXI.—*Lepidoptera* collected by Mr. C. M. Woodford in the *Ellice and Gilbert Islands*. By ARTHUR G. BUTLER, F.L.S., F.Z.S., &c.

THE species here enumerated were obtained in Nukufetau (Ellice group), and Tarawa and Tapetwea (Gilbert group). They are chiefly interesting as adding to our knowledge of the fauna of these islands.

RHOPALOCERA.

Nymphalidæ.

1. *Junonia villida*.

Papilio villida, Fabricius, Mant. Ins. ii. p. 35. n. 366 (1787); Donovan, Ins. New Holl. pl. 25. fig. 3 (1805).

♂. Nukufetau and Tapetwea.

2. *Hypolimnas rarick*.

Apatura rarick, Eschscholtz, in Kotzeb. Reise, p. 203, pl. 5. fig. 10 (1821).

♀. Tapetwea, Gilbert Islands.

Mr. Woodford took four females of this species, but omitted to capture males, under the impression that there was no difference in the males from various localities, and that consequently the whole of the species of this group of *Hypolimnas* were mere varieties of a widely distributed polymorphic type.

HETEROCEA.

Sphingidæ.

3. *Chærocampa erotoides*.

Gnathothlibus erotoides, Wallengren, Wien. ent. Monatschr. iv. p. 43. n. 44 (1860).

♂. Tarawa, Gilbert Islands.

The only example taken is entirely denuded of scales; but nevertheless I have not the slightest doubt of its identity with this species.

4. *Cephonodes hylas*.

Sphinx hylas, Linnæus, Mantissa, i. p. 539 (1771).

♂. Tapetwea.

Three examples were obtained; its distinctness from *C. Cunninghamii* is rendered doubtful by the fact that both forms occur together both in Australia and India.

Lithosiidæ.

5. *Deiopeia pulchella*.

Tinea pulchella, Linnæus, Syst. Nat. 1, ii. p. 884. n. 349.

Nukufetau, Ellice Islands, and Tapetwea.

The specimens are large, and the red spots on the primaries show a stronger tendency to confluence than is usual; nevertheless we have similar specimens from other parts of the world.

Apamiidæ.

6. *Prodenia retina*.

Neuria retina, Herrich-Schäffer, Eur. Schmett. ii. p. 292.

Tapetwea.

One example has very pale markings on the primaries, even more so than in the type of *P. subterminalis*, thus

rendering the distinctness of the latter from *P. retina* extremely doubtful.

7. *Amyna octo*.

Perigea octo, Guénée, Noct. i. p. 233. n. 377 (1852).

Amyna avis, Guénée, l. c. p. 407. n. 378 b (1852).

Nukufetau and Tapetewea.

Both forms of this species were obtained in the Ellice and Gilbert Islands. It is new to the Museum collection, and is the smallest species hitherto described.

Heliothidæ.

8. *Heliothis armigera*.

Noctua armigera, Hübner, Noct. pl. 79. fig. 370 (1805-24).

Tapetewea.

Evidently common in the Gilbert Islands. The specimens are generally smaller than those from Europe, and should perhaps be referred to the form named *H. succinea* by Mr. Moore.

Catephiidæ.

9. *Catephia linteola*.

Catephia linteola, Guénée, Noct. iii. p. 44. n. 1375 (1852).

♂. Tarawa, Gilbert Islands.

Ophiusidæ.

10. *Achæa melicerte*.

Phalæna-Noctua melicerte, Drury, Ill. Exot. Ent. i. p. 46, pl. 23. fig. 1.

♀. Tapetewea.

Remigiidæ.

11. *Remigia translata*.

Remigia translata, Walker, Cat. Lep. Het. Suppl. iii. p. 1015 (1865).

♀. Tapetewea and Nukufetau.

Steniidæ.

12. *Marasmia creonalis*.

♀. *Botys creonalis*, Walker, Lep. Het. xviii. p. 579. n. 55 (1859).

♀. *Botys neoclesalis*, Walker, l. c. p. 635. n. 153 (1859).

♀. *Botys suspicalis*, Walker, l. c. p. 667. n. 212 (1859).

♀. *Botys convectalis*, Walker, l. c. Suppl. 4, p. 1411.

♂. *Marasmia cicatricosa*, Lederer, Wien. ent. Monatschr. vii. pl. xii. fig. 8 (1863).

♀. Tapetewea, Gilbert Islands.

Margarodidæ.

13. *Erilita modestalis*.

Erilita modestalis, Lederer, Wien. ent. Monatschr. vii. pl. xvi. fig. 3 (1863).

Nukufetau, Ellice Islands.

This species usually has a black spot at the end of the cell of secondaries; it is not, however, represented in Lederer's figure, and is absent in a specimen from Mysol in the Museum collection.

14. *Margaronia Woodfordii*, sp. n.

Nearest to *M. pomonalis*; of a brilliant emerald-green colour: primaries above with a narrow golden-ochreous costal border, edged in front towards apex with blackish; all the wings with a narrow ochreous external margin, dotted with brown at the extremities of the veins and bounded externally by a blackish line; fringes snow-white, unequally spotted with blackish, so as to give an angulated appearance to the wings: secondaries with a narrow tapering interno-median streak and the abdominal border snow-white: palpi rich velvety sap-green, tipped with red-brown; antennæ white, with the basal half above tinted with green; sides of abdomen whitish; subterminal segment of male and anal segment of female tipped with golden; anal segment of male clothed with black hair. Under surface paler: base of primaries and entire surface of secondaries whitish: body below pearly (Veronese) green, deepest on the front of the thorax: under surface of legs and the whole of the tarsi pure white; anterior tibiæ brown, terminating in a fan-shaped fringe of hair, across the base of which runs a pale bar. Expanse of wings 31 millim.

♂ ♀. Tapetewea.

Nine examples of this beautiful little species were obtained. It is more brilliant in colour than any of the green *Margaronia* known to me.

Asopiidæ?

15. *Rinecera mirabilis*.

Rinecera mirabilis, Butler, in 'Account of Collections of U.S. Eclipse Expedition.'

This interesting species is larger than *R. viola* (*Pyrausta viola*, Butl.), which was described from a female insect, and the oblique band beyond the cell is sinuated and strongly dentated; the genus was founded principally upon the male characters, which are very peculiar, the antennæ being curved and knotted somewhat as in *Ceratoclasia*, Led., and the costal

margin of the primaries sinuous and with a grooved projection at the basal third; the tibiæ of the anterior legs are flattened and gradually expanded towards the distal extremity, and in both the anterior and middle legs are more or less grooved below.

♂. Nukufetau, Ellice Islands.

Three examples were obtained.

Galeriidæ.

HARPAGONEURA, gen. nov.

Allied to *Melissoblaptes*; the body very similar: primaries elongate triangular; costa slightly sinuous; costal border somewhat depressed, so as to form a strong ridge at costal vein; outer margin truncate, transverse, deflexed, rounded off at external angle; the inner margin nearly straight, inarched at the base; costa on under surface very deeply grooved; costal vein running to second third of margin; subcostal with five branches, the first emitted at about the middle of the wing, running parallel to the costal vein and reaching the costa just beyond it; the four other veins crowded together upon a thickened glandular patch close to apex, the second joining the third halfway between the cell and apex, thus forming a narrow elongated postdiscoidal cell; discoidal cell extremely long and broad; upper radial continuous with upper discocellular, which is long and united by a short elbow to the subcostal; lower discocellular short and oblique; the lower radial emitted as a fourth median branch; the third and fourth median branches converging towards outer margin; the median vein widely arched, so as to approach the inner margin: secondaries emitting a long but scanty pencil of hairs from the base above; costal margin long and sinuous, outer margin obliquely arched, inner margin rather short and nearly straight; costal and subcostal veins closely approximated to beyond the cell, where they coalesce for a short distance and then fork to costa; in other respects the subcostal is normal; discoidal cell open; median, submedian, and internal veins quite normal.

16. *Harpagoneura complexa*, sp. n.

Whity brown, sericeous; the secondaries almost white and semitransparent; pectus pearly snow-white. Expanse of wings 25 millim.

Nukufetau, Ellice Islands.

Only one example of this extraordinary insect was obtained.